

**RITN**

**RADIATION INJURY  
TREATMENT NETWORK**

# **2013 Year in Review**

**Program Manager, RITN**

**December 3, 2013**

**Questions: [RITN@nmdp.org](mailto:RITN@nmdp.org)**

# Agenda

- **RITN 101 in 5 min** (for those new to RITN)
- **Updated Scenario Information**
- **2013 Highlights**
- **2014 Projects & Tasks**
- **Questions**

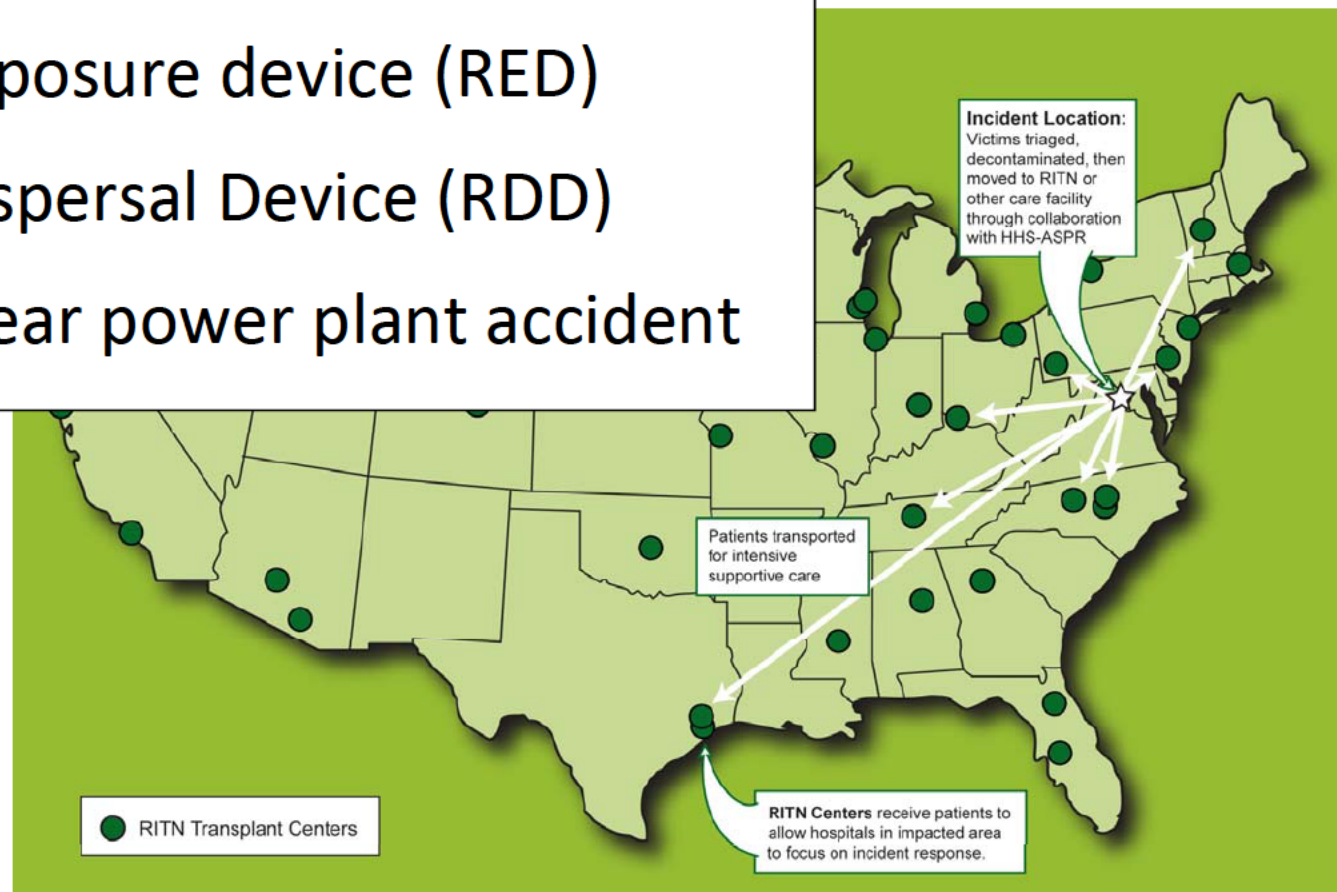
# RITN in 5 Min

# RITN Center Staff are Cancer Specialists

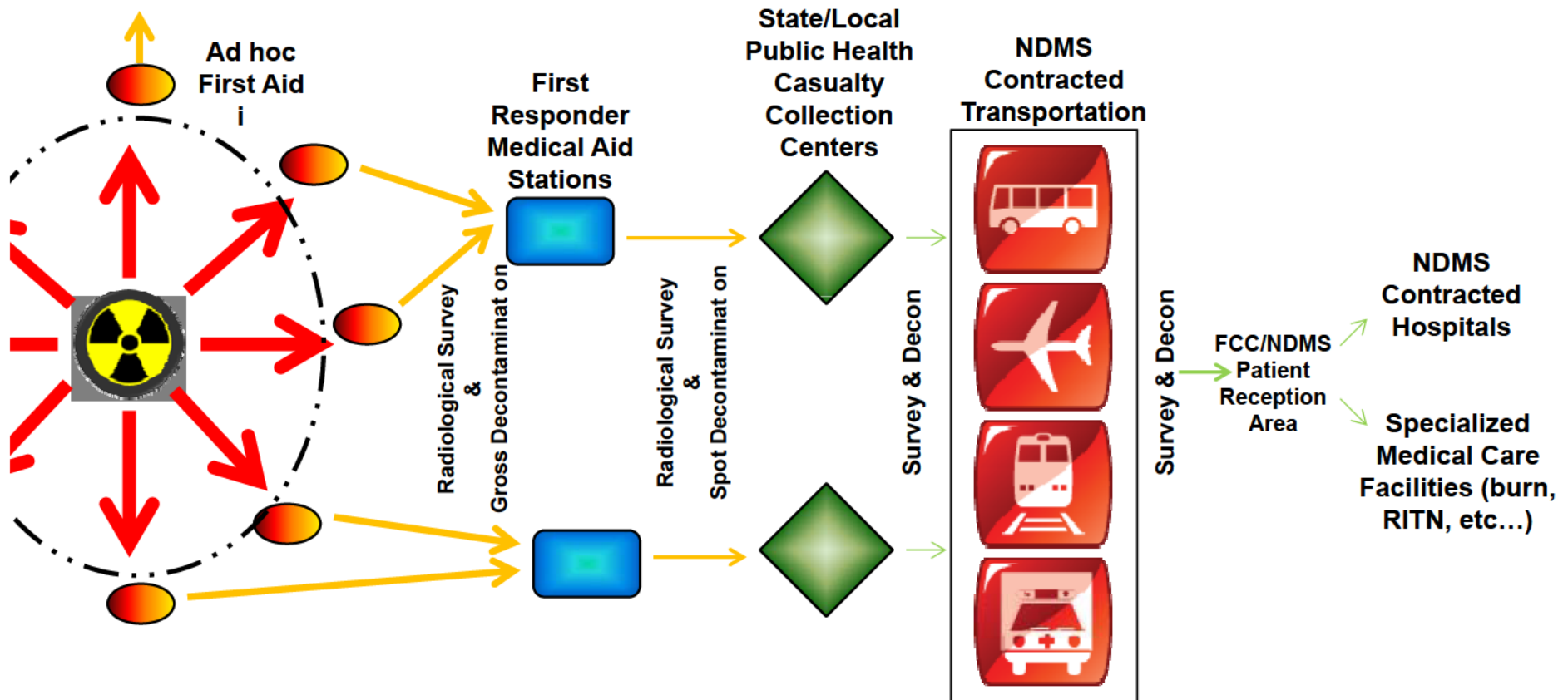
- RITN Centers are not 1<sup>st</sup> Responders or trauma care specialists
- In the aftermath of a marrow toxic incident, RITN centers may:
  - Accept patient transfers to their institutions
  - Provide intensive supportive care to victims
  - Provide treatment expertise to practitioners caring for victims at other locations
  - Travel to other centers to provide medical expertise
  - Provide data on victims treated at their centers
  - Facilitate marrow transplant for those who require it

# Possible Incidents & Planned NDMS Movement

- Military grade nuclear weapon
- Improvised Nuclear Device (IND)
- Radiological exposure device (RED)
- Radiological Dispersal Device (RDD)
- Industrial/nuclear power plant accident

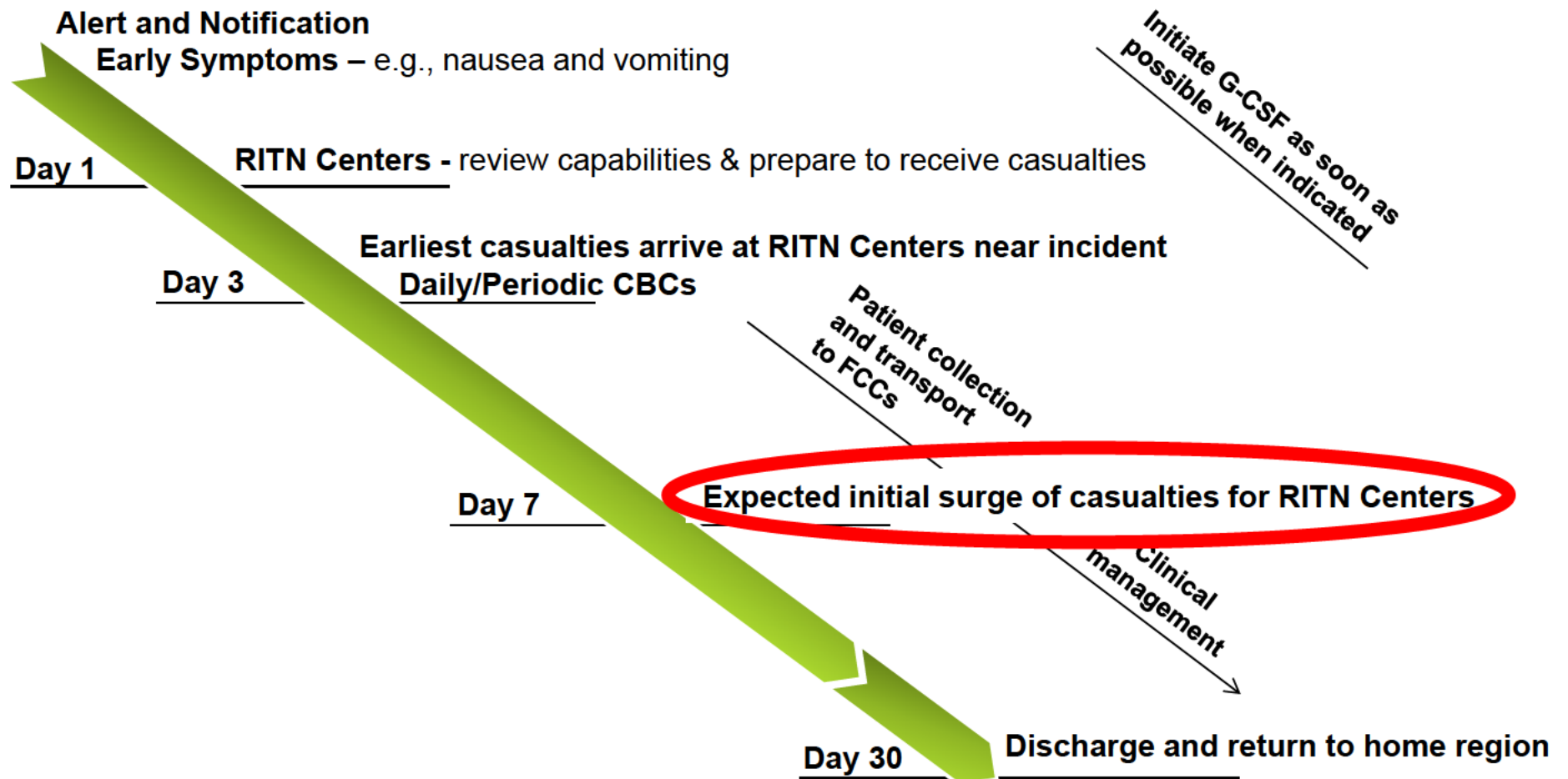


# Conceptual Flow of Victims to a RITN Center



\*\*\* This model does not account for victims with trauma or no injuries.

# Timeline of RITN Response



# Key things to stress about RITN

1. Not 1<sup>st</sup> Responders or trauma care
2. Expect to see surge 7-10 days after incident
3. If incident is local: the local RITN centers focus is on incident response not RITN
4. Casualties should not be significantly contaminated when they arrive at a RITN center
5. Affiliated with National Disaster Medical System:
  - a) Casualty distribution is through NDMS
  - b) Reimbursement is through NDMS



# Updated Scenario Information

# Not if, but when...

*“the possibility of a group making a weapon using highly enriched uranium is very plausibly within capabilities of a sophisticated terrorist group.”*

*Matthew Bunn (Harvard Belfer Center) 3/22/2012*

*“Making a simple “gun-type” bomb, the easiest for terrorists to build, requires at least 50 kilograms of HEU enriched to 90% U-235.”*

*From “Consolidation: Thwarting Nuclear Theft” Harvard Belfer Center, March 2012*

*As of 31 December 2012 there were a total of 2331 confirmed radiological theft or misuse incidents reported by participating States; of these 419 involved unauthorized possession and related criminal activities, 615 incidents involved reported theft or loss and 1244 incidents involved other unauthorized activities and events.*

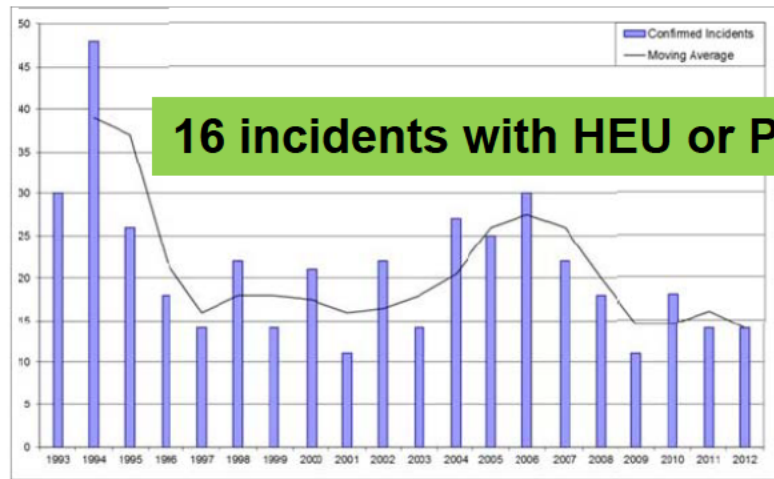
*Paraphrased from IAEA INCIDENT AND TRAFFICKING DATABASE (ITDB) highlights 1993-2012*

*From 1993-2012 there were 16 incidents where unauthorized possession of HEU or plutonium were reported. Some involving attempts to sell or traffic these materials across international borders. Most were gram sized amounts however some were kilogram quantities of weapons grade material.*

*Paraphrased from IAEA INCIDENT AND TRAFFICKING DATABASE (ITDB) highlights 1993-2012*

# IAEA Reported Incidents 1993-2012

Unauthorized Possession

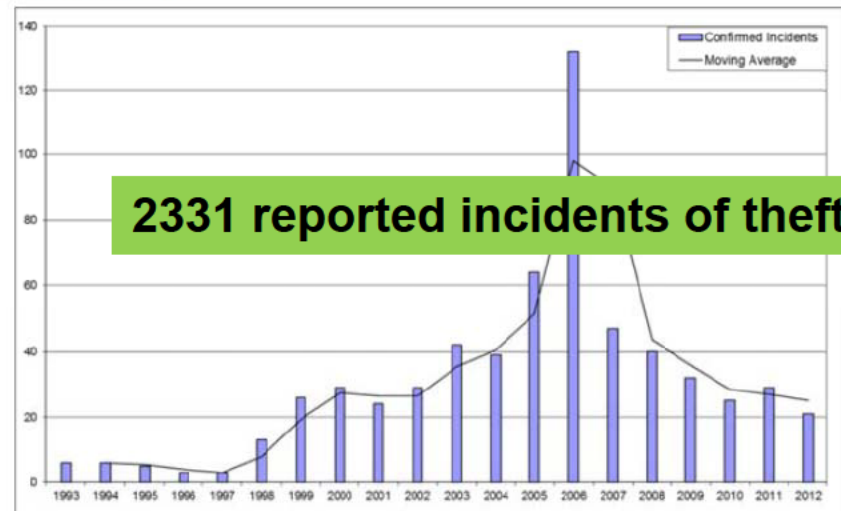


16 incidents with HEU or Plutonium

Figure 1. Incidents reported to the ITDB involving unauthorized possession and related criminal activities, 1993–2012.

This is only what  
is being reported

Theft or Loss



2331 reported incidents of theft or loss

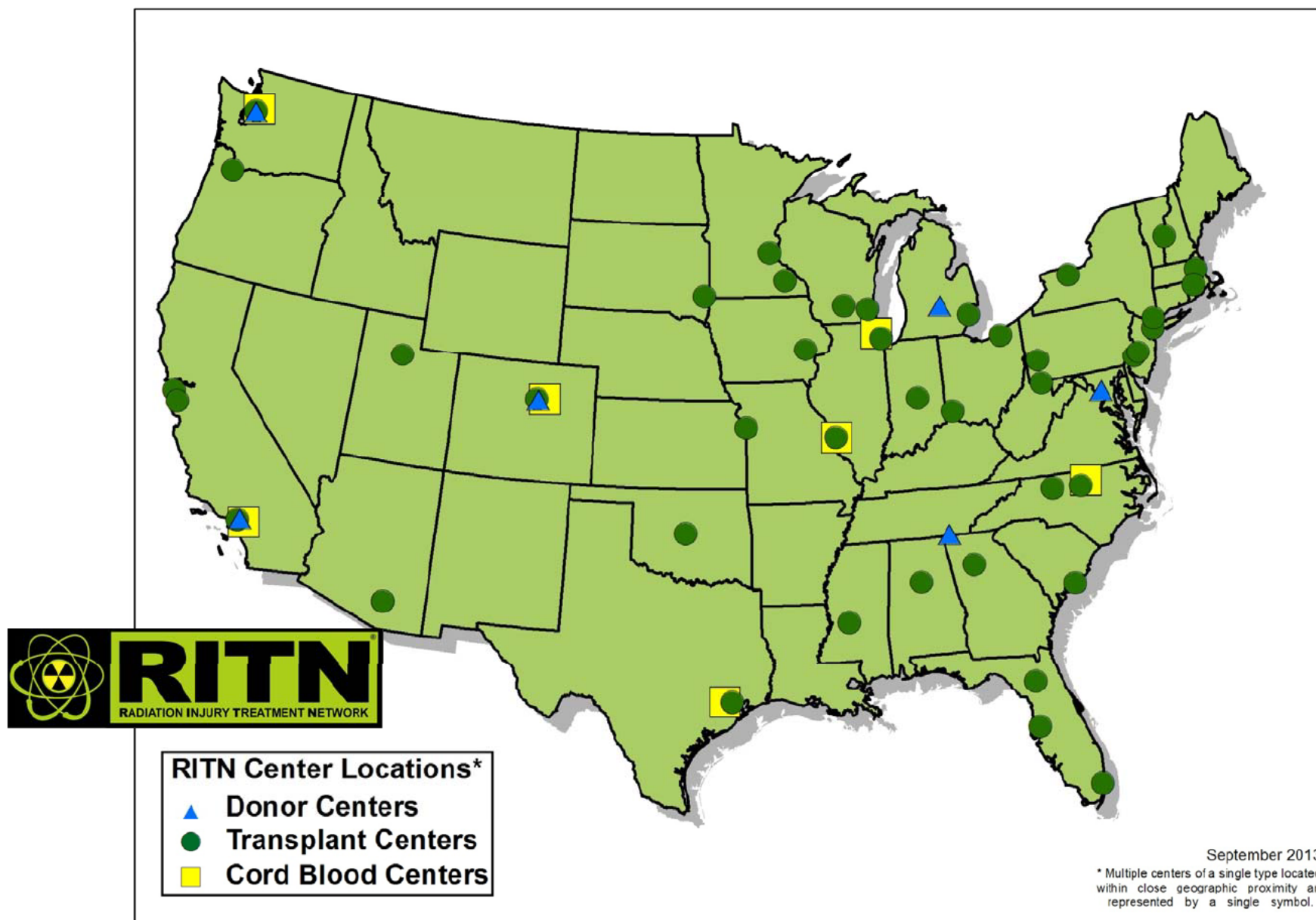
Figure 2. Incidents reported to the ITDB involving theft or loss, 1993–2012.

# 2013 Highlights

# Growth

- Three centers were inactive during 2013:
  - Iowa, Froedtert, Children's of WI
- Three centers joined RITN during 2013:
  - Boston Children's (MA)
  - All Children's (FL)
  - Thomas Jefferson (PA)
- One center left RITN during 2013:
  - Vanderbilt

# RITN Center Locations



# Radiation Injury Treatment Network

## Transplant Centers

AL - University of Alabama at Birmingham  
 AZ - University Medical Center  
 CA - UCSF Medical Center  
 CA - City of Hope National Medical Center  
 CA - Stanford Hospital and Clinics  
 CO - Presbyterian/St. Lukes Medical Center  
 FL - All Children's Hospital  
 FL - H. Lee Moffitt Cancer Center  
 FL - Shands Hospital at the University of Florida  
 FL - University of Miami  
 GA - Northside Hospital  
 IA - University of Iowa Hospitals and Clinics  
 IL - Rush University Medical Center  
 IN - St. Francis Hospital and Health Centers  
 KS - University of Kansas Medical Center  
 MA - Children's Hospital of Boston  
 MA - Dana Farber/Partners Cancer Care  
 MA - Massachusetts General Hospital  
 MI - Barbara AnnKarmanos Cancer Center  
 MN - Mayo Clinic Rochester  
 MN - University of Minnesota BMT Program  
 MO - Barnes-Jewish Hospital at Washington  
 MO - The Children's Mercy Hospital  
 MS - University of Mississippi Medical Center  
 NC - UNC Hospitals  
 NC - Wake Forest Univ Baptist Medical Center  
 NC - Duke University Medical Center  
 NH - Dartmouth-Hitchcock Medical Center  
 NY - Strong Memorial Hospital  
 NY - Memorial Sloan-Kettering Cancer Center  
 NY - Mount Sinai Hospital  
 NY - Westchester Medical Center  
 OH - Cincinnati Children's Hospital Medical Center  
 OH - Cleveland Clinic Foundation  
 OH - University Hospitals of Case Medical Center

Ped = Pediatric patient only facility  
 P/A = Pediatric and adult capable facility  
 NDMS = National Disaster Medical System Center  
 HPP = Hospital Preparedness Program  
 If no capability is annotated the facility is adult only

P/A NDMS HPP  
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 NDMS HPP

## Transplant Centers

OK - Oklahoma Univ. Medical Center & Childrens Hospital  
 OR - Oregon Health & Science University  
 PA - Children's Hospital of Philadelphia  
 PA - Temple University  
 PA - University of Pennsylvania Medical Center  
 PA - Western Pennsylvania Cancer Institute  
 RI - Roger Williams Medical Center  
 SC - Medical University of South Carolina  
 SD - Avera McKennan Transplant Institute  
 TX - M.D. Anderson Cancer Center  
 TX - Texas Children's Hospital  
 UT - LDS Hospital  
 UT - Primary Children's Medical Center  
 UT - University of Utah  
 WA - Seattle Cancer Care Alliance  
 WV - West Virginia University Hospitals  
 WI - Children's Hosp of WI & Midwest Children's CC  
 WI - Froedtert Memorial Lutheran Hospital  
 WI - Univ. of Wisconsin at Madison

P/A NDMS  
 P/A NDMS HPP  
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## Donor Centers

CA - City of Hope National Medical Center  
 CO - Colorado Marrow Donor Program  
 MD - C.W. Bill Young Marrow Donor Center  
 MI - NMDP operated donor center  
 TN - Blood Assurance  
 WA - Puget Sound Blood Center

## Cord Blood Banks

CA - StemCyte International Cord Blood Center  
 CO - University of Colorado  
 IL - ITxM Cord Blood Services  
 MO - St. Louis Cord Blood Bank  
 NC - Carolinas Cord Blood Bank  
 TX - MD Anderson  
 WA - Puget Sound Blood Center



TC	54
DC	6
CBB	7
<b>Total</b>	<b>67</b>

Total NDMS Centers	42
% TCs that are NDMS	78%
Total HPP Centers	41
% TCs that are HPP	76%

As of 12 Sept 2013

\*\*please report any corrections to this document to RITN@nmdp.org



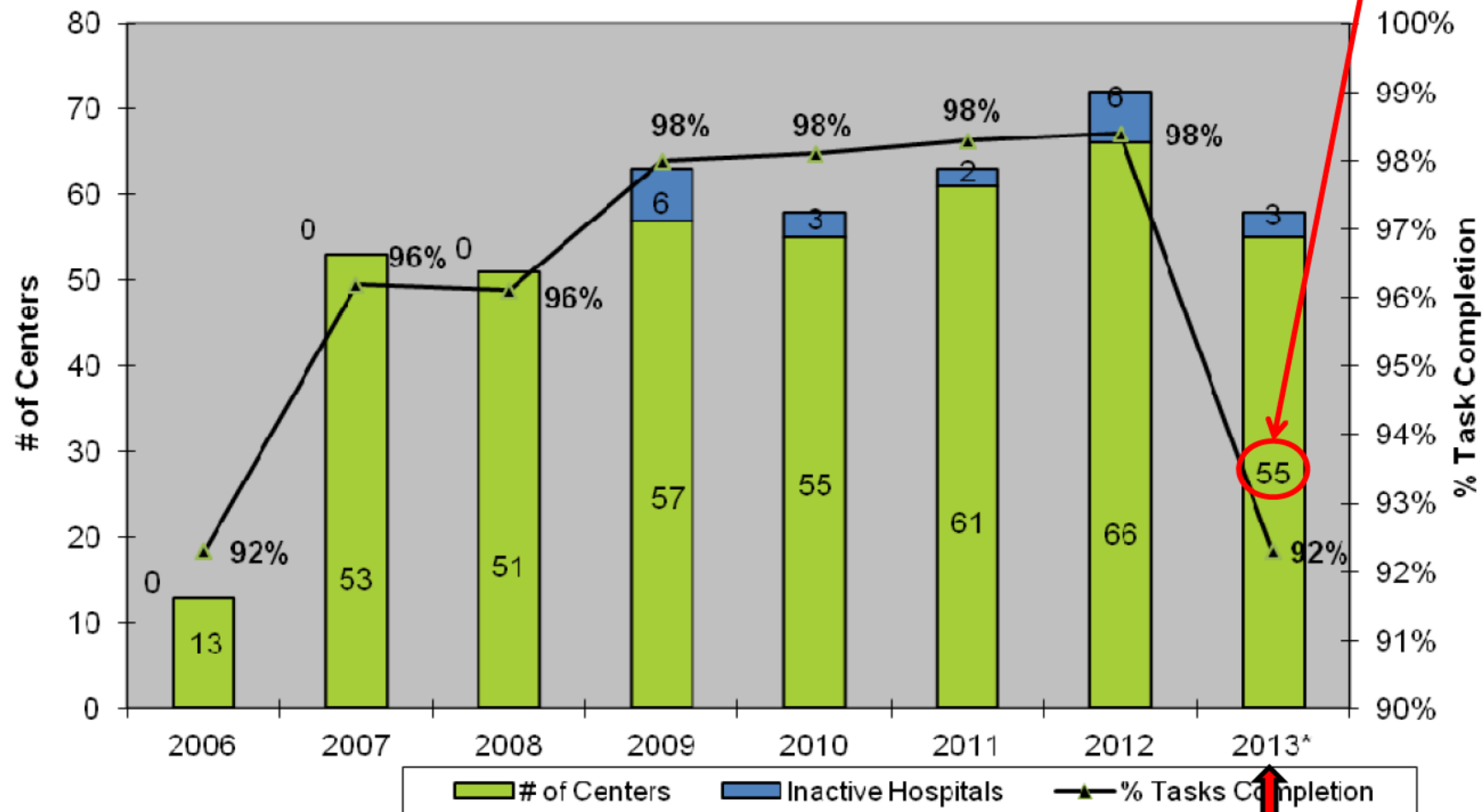
# 2013 Highlights

- Site Assessments
- Tabletop exercises attended
- Web based training released (<https://nmdp.sumtotalsystems.com>)
  1. Intro to RITN
  2. RITN Concept of Operations
  3. GETS 101
  4. Satellite telephone 101
  5. Basic Radiation Training
  6. Non-medical Radiation Awareness Training
- Mayo Full-scale Exercise
- 2 x Web based tabletop exercises
- Mobile REAC/TS held at Duke University
- 2 x resident REAC/TS courses
- New Partnership with CMCRs
- 4<sup>th</sup> biennial conference w/ 175 attendees



## RITN Hospital Task Completion

Does not  
include  
DC/CBB

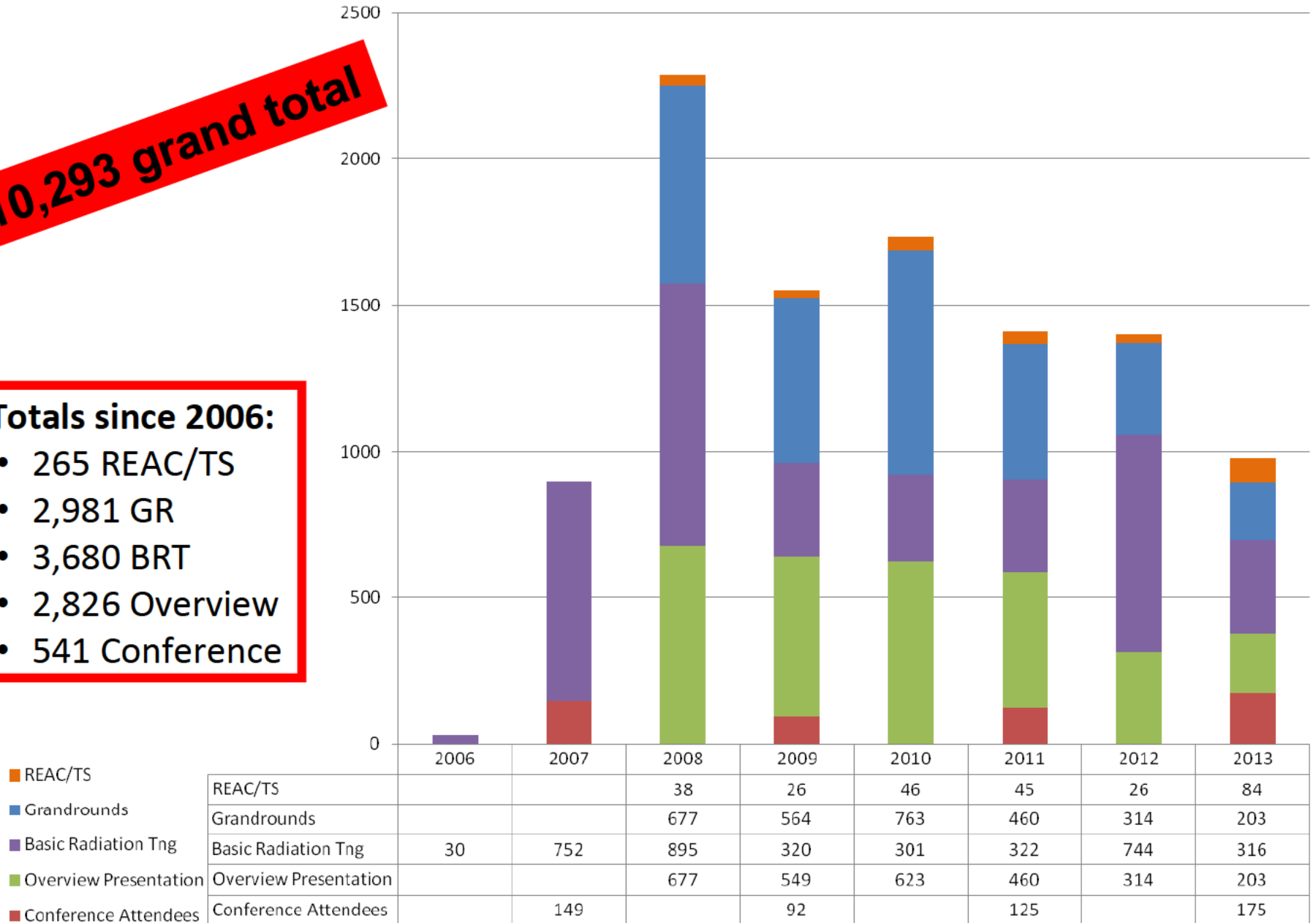


## Summary of RITN Training & Education

**10,293 grand total**

### Totals since 2006:

- 265 REAC/TS
- 2,981 GR
- 3,680 BRT
- 2,826 Overview
- 541 Conference



# 2014 Projects and Tasks

# 2014 Projects

- Addition of 5+ transplant centers
- 2014 survey
- Release RITN Referral Guidelines early 2014
- Collect triage guidelines for release late 2014
- Regional collaboration meeting for NY-NYC
- G-CSF distribution project with ASTHO and CDC
  - Will seek 6 subject matter experts to attend workshop
- 2 x Mobile REAC/TS training sessions (Boston & Chicago)
  - Travel expenses for up to 20 physicians
- Review of updated REMM ARS guidelines
- Medical staff risk communications training development
- Exercises: Full-Scale Exercise, 3 x Web based TTX, Communications drill with DHHS-ASPR

# 2014 Tasks (Nov 1, 2013-Aug 31, 2014)

## 1. Administrative

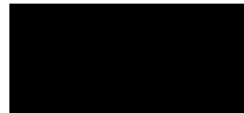
- a) SOP update, contact update, GETS test, HCS, satellite phone, IRB of consents

## 2. Exercise

- a) Primary choice will be web based on 3 scheduled dates
- b) Can coordinate and host own if prefer

## 3. Training

- a) Options: 20 x BRT, MD to REAC/TS, Grandrounds, Overview to external preparedness group, submit triage guidelines or site assessment



# References:

**[www.RITN.net](http://www.RITN.net)**



**[www.REMM.NLM.gov](http://www.REMM.NLM.gov)**

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

REMM

**RADIATION EMERGENCY MEDICAL MANAGEMENT**

Guidance on Diagnosis & Treatment for Health Care Providers

**REMM Website Updated Aug 2013  
Download the App!!**

# Questions?

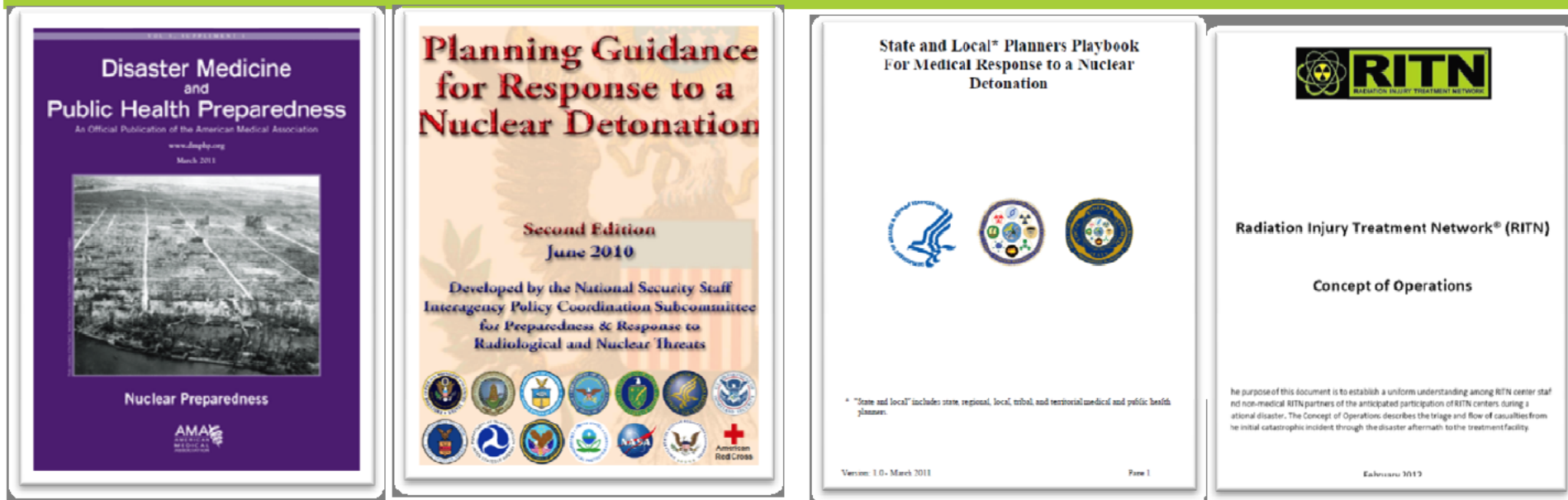
# Partners

- American Society for Blood and Marrow Transplantation
- Department of Defense - Office of Naval Research
- Health Resources and Services Administration
- Dept. Health & Human Services - Asst. Secretary of Preparedness and Response
- AABB-Disasters Task Force (formerly American Assoc. of Blood Banks)
- New England Center for Emergency Preparedness
- European Group for Blood and Marrow Transplantation-Nuclear Accident Committee
- Center for International Blood and Marrow Transplant Research
- Radiation Emergency Assistance Center/Training Site
- Radiation Emergency Medical Management website: [www.remm.nlm.gov](http://www.remm.nlm.gov)





# Free Resources



# FREE

- <http://journals.cambridge.org/action/displayIssue?jid=DMP&volumeId=5&seriesId=0&issueId=S1>
- <http://www.remm.nlm.gov/PlanningGuidanceNuclearDetonation.pdf>
- <http://www.phe.gov/Preparedness/planning/playbooks/stateandlocal/nuclear/Documents/statelocalplaybook-v1.pdf>
- <http://www.ritn.net/About/>